

Digital System Design And Microprocessors Mcgraw Hill Series In Computer Organization And Architecture

The use of the microprocessor as a building block for digital logic design is included in this complete introduction to computer engineering. The authors offer a top-down approach to designing digital systems, with consideration of both hardware and software. They emphasize structured design throughout, and the design methods, techniques, and notations are consistent with this theme. The first part of the book lays the foundation for structured design techniques; the second part provides the fundamentals of microprocessor and up-based design. Topics covered include mixed logic notation, the algorithm state machine, and structured programming techniques with well-documented programs. An abundance of examples and end-of-chapter problems are included.

Embedded systems are today, widely deployed in just about every piece of machinery from toasters to spacecraft. Embedded system designers face many challenges. They are asked to produce increasingly complex systems using the latest technologies, but these technologies are changing faster than ever. They are asked to produce better quality designs with a shorter time-to-market. They are asked to implement increasingly complex functionality but more importantly to satisfy numerous other constraints. To achieve the current goals of design, the designer must be aware with such design constraints and more importantly, the factors that have a direct effect on them. One of the challenges facing embedded system designers is the selection of the optimum processor for the application in hand; single-purpose, general-purpose or application specific. Microcontrollers are one member of the family of the application specific processors. The book concentrates on the use of microcontroller as the embedded system's processor, and how to use it in many embedded system applications. The book covers both the hardware and software aspects needed to design using microcontroller. The book is ideal for undergraduate students and also the engineers that are working in the field of digital system design.

A General Guide on Logic Design. The Book Expands upon the Applications of Logic Design in Relation to Microprocessors

Microprocessor System Design: A Practical Introduction describes the concepts and techniques incorporated into the design of electronic circuits, particularly microprocessor boards and their peripherals. The book reviews the basic building blocks of the electronic systems composed of digital (logic levels, gate output circuitry) and analog components (resistors, capacitors, diodes, transistors). The text also describes operational amplifiers (op-amp) that use a negative feedback technique to improve the parameters of the op-amp. The design engineer can use programmable array logic (PAL) to replace standard discrete TTL and CMOS gates in circuits. The PAL is programmable and configurable to match the requirement of a given circuit. Using PAL can save space, a very important factor in the miniaturization process. Examples of PAL applications include the BCD counter, the LS 138 emulator, and a priority interrupt encoder. The book also explains the operation and function of a microprocessor, the bus-based systems, analog-to-digital conversion, and vice-versa. The text is suitable for programmers, computer engineers, computer technicians, and computer instructors dealing with many aspects of computers such as programming, networking, engineering or design.

Briefly traces the history of computers and microprocessors, and discusses basic logic gates, programmable logic devices, Boolean algebra, combinational logic, sequential logic, computer memory, and 8086 instruction sets

Calculation is the main function of a computer. The central unit is responsible for executing the programs. The microprocessor is its integrated form. This component, since the announcement of its marketing in 1971, has not stopped breaking records in terms of computing power, price reduction and integration of functions (calculation of basic functions, storage with integrated controllers). It is present today in most electronic devices. Knowing its internal mechanisms and programming is essential for the electronics engineer and computer scientist to understand and master the operation of a computer and advanced concepts of programming. This first volume focuses more particularly on the first generations of microprocessors, that is to say those that handle integers in 4 and 8-bit formats. The first chapter presents the calculation function and reminds the memory function. The following is devoted to notions of calculation model and architecture. The concept of bus is then presented. Chapters 4 and 5 can then address the internal organization and operation of the microprocessor first in hardware and then software. The mechanism of the function call, conventional and interrupted, is more particularly detailed in a separate chapter. The book ends with a presentation of architectures of the first microcomputers for a historical perspective. The knowledge is presented in the most exhaustive way possible with examples drawn from current and old technologies that illustrate and make accessible the theoretical concepts. Each chapter ends if necessary with corrected exercises and a bibliography. The list of acronyms used and an index are at the end of the book.

YOUR ONE-STOP RESOURCE FOR DIGITAL SYSTEM DESIGN! The explosion in communications and embedded computing technologies has brought with it a host of new skill requirements for electrical and electronics engineers, students, and hobbyists. With engineers expected to have such diverse expertise, they need comprehensive, easy-to-understand guidance on the fundamentals of digital design. Enter McGraw-Hill's Complete Digital Design. Written by an experienced electrical engineer and networking hardware designer, this book helps you understand and navigate the interlocking components, architectures, and practices necessary to design and implement digital systems. It includes: * Real world implementation of microprocessor-based digital systems * Broad presentation of supporting analog circuit principles * Building complete systems with basic design elements and the latest technologies Complete Digital Design will teach you how to develop a customized set of requirements for any design problem—and then research and evaluate available components and technologies to solve it. Perfect for the professional, the student, and the hobbyist alike, this is one volume you need handy at all times! What you'll find inside: * Digital logic and timing analysis * Integrated circuits * Microprocessor and computer architecture * Memory technologies * Networking and serial communications * Finite state machine design * Programmable logic: CPLD and FPGA * Analog circuit basics * Diodes, transistors, and operational amplifiers * Analog-to-digital conversion * Voltage regulation * Signal integrity and PCB design * And more!

Digital Design and Computer Architecture: ARM Edition covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Combining an engaging and humorous writing style with an updated and hands-on approach to digital design, this book takes the reader from the fundamentals of digital logic to the actual design of an ARM processor. By the end of this book, readers will be able to build their own microprocessor and will have a top-to-bottom understanding of how it works. Beginning with digital logic gates and progressing to the design of combinational and sequential circuits, this book uses these fundamental building blocks as the basis for designing an ARM processor. SystemVerilog and VHDL are integrated throughout the text in examples illustrating the methods and techniques for CAD-based circuit design. The companion website includes a chapter on I/O systems with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. This book will be a valuable resource for students taking a course that combines digital logic and computer architecture or students taking a two-quarter sequence in digital logic and computer organization/architecture. Covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Features side-by-side examples of the two most prominent Hardware Description Languages (HDLs)—SystemVerilog and VHDL—which illustrate and compare the ways each can be used in the design of digital systems. Includes examples throughout the text that enhance the reader's understanding and retention of key concepts and techniques. The Companion website includes a chapter on I/O systems

with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. The Companion website also includes appendices covering practical digital design issues and C programming as well as links to CAD tools, lecture slides, laboratory projects, and solutions to exercises.

This course introduces digital systems design with hardware description languages (HDL), programmable implementation technologies, electronic design automation design flows, design considerations and constraints, design for test, system on a chip designs, IP cores, reconfigurable computing, digital system design examples and applications. New, updated and expanded topics in the fourth edition include: EBCDIC, Grey code, practical applications of flip-flops, linear and shaft encoders, memory elements and FPGAs. The section on fault-finding has been expanded. A new chapter is dedicated to the interface between digital components and analog voltages. *A highly accessible, comprehensive and fully up to date digital systems text *A well known and respected text now revamped for current courses *Part of the Newnes suite of texts for HND/1st year modules

Appropriate for undergraduate and beginning graduate level courses on embedded systems or microprocessor based systems design in computer engineering, electrical engineering, and computer science. The basic structure, operation, and design of embedded systems is presented in a stepwise fashion. A balanced treatment of both hardware and software is provided. The Intel 80C188EB microprocessor is used as the instructional example. Hardware is covered starting from the component level. Software development focuses on assembly language. The only background required is an introductory course in digital systems design.

A textbook for courses in digital electronics and microprocessors offered in departments of electrical engineering technology or computer science. The book covers the basics of digital logic design and the design of microprocessor-based systems. Also covered are computer fundamentals and microprocessor hardware and software (8085), with many programming examples. The text describes most important available microprocessors, with laboratory exercises, instructional objectives and self-evaluation questions.

Explore this concise guide perfect for practicing digital designers and students of electronic engineering who work in or study embedded systems Digital System Design using FSMs: A Practical Learning Approach delivers a thorough update on the author's earlier work, FSM-Based Digital Design using Verilog HDL. The new book retains the foundational content from the first book while including refreshed content to cover the design of Finite State Machines delivered in a linear programmed learning format. The author describes a different form of State Machines based on Toggle Flip Flops and Data Flip Flops. The book includes many figures of which 15 are Verilog HDL simulations that readers can use to test out the design methods described in the book, as well as 19 Logisim simulation files with figures. Additional circuits are also contained within the Wiley web folder. It has tutorials and exercises, including comprehensive coverage of real-world examples demonstrated alongside the frame-by-frame presentations of the techniques used. In addition to covering the necessary Boolean algebra in sufficient detail for the reader to implement the FSM based systems used in the book, readers will also benefit from the inclusion of: A thorough introduction to finite-state machines and state diagrams for the design of electronic circuits and systems An exploration of using state diagrams to control external hardware subsystems Discussions of synthesizing hardware from a state diagram, synchronous and asynchronous finite-state machine designs, and testing finite-state machines using a test-bench module A treatment of the One Hot Technique in finite-state machine design An examination of Verilog HDL, including its elements An analysis of Petri-Nets including both sequential and parallel system design Suitable for design engineers and senior technicians seeking to enhance their skills in developing digital systems, Digital System Design using FSMs: A Practical Learning Approach will also earn a place in the libraries of undergraduate and graduate electrical and electronic engineering students and researchers.

This text is intended for a first course in digital logic design, at the sophomore or junior level, for electrical engineering, computer engineering and computer science programs, as well as for a number of other disciplines such as physics and mathematics. The book can also be used for self-study or for review by practicing engineers and computer scientists not intimately familiar with the subject. After completing this text, the student should be prepared for a second (advanced) course in digital design, switching and automata theory, microprocessors or computer organization. Request Inspection Copy

In recent years Digital Electronics & Microprocessor is being used extensively in computers, microprocessor and very large scale integration (VLSI) design and digital signal processing research and many other things. This rapid progress in Electronics Engineering has created an increasing demand for trained Digital System Designs personnel. This book is intended for the undergraduate and postgraduate students specializing in Electronics Engineering, Computer Science Engineering and Information Technology. It will also serve as reference material for engineers employed in industry. The fundamental concepts and principles behind Digital Electronics & Microprocessor are explained in a simple, easy-to-understand manner. Each chapter contains a large number of solved example or problem which will help the students in problem solving and designing of Electronics system. This text book is organized into Thirteen chapters. Chapter 1: Number Systems and Boolean Algebra Chapter 2: Combinational Circuits Chapter 3: Sequential Circuits Chapter 4 : Digital Logic Families Chapter 5: Memory & Programmable Logic Chapter 6: Asynchronous Sequential Logic Chapter-7: Digital System Design Using Hardware Chapter 8: Digital System Design Using VHDL Chapter-9: Design of Fast Adder Chapter 10: Design of Fast Multiplier Chapter 11: Basics of Microprocessor Chapter 12: Programming of Microprocessor Chapter 13: Micro Controller & Its Applications The book Digital Electronics & Microprocessor is written to cater to the needs of the undergraduate courses in the discipline of Electronics & Communication Engineering, Computer Science Engineering, Information Technology, Electronics & Instrumentation Engineering, Electrical & Electronics Engineering and postgraduate students specializing in Electronics. It will also serve as reference material for engineers employed in industry. The

fundamental concepts and principles behind Digital Electronics & Microprocessor are explained in a simple, easy-to-understand manner. Digital Electronics & Microprocessor also gives the possible experiments of digital logic design using VHDL and Hardware that can be done by students of B.E. /B.Tech./M.Tech. and Ph.D. level. Salient Features*Detailed coverage of Number Systems and Boolean Algebra, Combinational Circuits and Sequential Circuits *Comprehensive chapters on Digital Logic Families, Memory & Programmable Logic and Asynchronous Sequential Logic *Detailed coverage of Digital System Design Using Hardware, Digital System Design Using VHDL, Design of Fast Adder and Design of Fast Multiplier*Comprehensive chapters on Basics of Microprocessor, Programming of Microprocessor, Microcontroller and Its Application.*Each chapter contains a large number of solved example or objective type's problem which will help the students in problem solving and designing of digital system. *Clear perception of the various problems with a large number of neat, well drawn and illustrative diagrams. *Simple Language, easy-to-understand manner. I do hope that the text book in the present form will meet the requirement of the students doing graduation in Electronics & Communication Engineering, Computer Science Engineering, Information Technology, Electronics & Instrumentation Engineering and Electrical & Electronics Engineering. I shall appreciate any suggestions from students and faculty members alike so that we can strive to make the text book more useful in the edition to come.

This book focuses on the basic principles of digital electronics and logic design. It is designed as a textbook for undergraduate students of electronics, electrical engineering, computer science, physics, and information technology. The text covers the syllabi of several Indian and foreign universities. It depicts the comprehensive resources on the recent ideas in the area of digital electronics explored by leading experts from both industry and academia. A good number of diagrams are provided to illustrate the concepts related to digital electronics so that students can easily comprehend the subject. Solved examples within the text explain the concepts discussed and exercises are provided at the end of each chapter.

Microprocessors and Microcomputer-Based System Design, Second Edition, builds on the concepts of the first edition. It discusses the basics of microprocessors, various 32-bit microprocessors, the 8085 microprocessor, the fundamentals of peripheral interfacing, and Intel and Motorola microprocessors. This edition includes new topics such as floating-point arithmetic, Program Array Logic, and flash memories. It covers the popular Intel 80486/80960 and Motorola 68040 as well as the Pentium and PowerPC microprocessors. The final chapter presents system design concepts, applying the design principles covered in previous chapters to sample problems.

This book is designed to serve as a hands-on professional reference with additional utility as a textbook for upper undergraduate and some graduate courses in digital logic design. This book is organized in such a way that that it can describe a number of RTL design scenarios, from simple to complex. The book constructs the logic design story from the fundamentals of logic design to advanced RTL design concepts. Keeping in view the importance of miniaturization today, the book gives practical information on the issues with ASIC RTL design and how to overcome these concerns. It clearly explains how to write an efficient RTL code and how to improve design performance. The book also describes advanced RTL design concepts such as low-power design, multiple clock-domain design, and SOC-based design. The practical orientation of the book makes it ideal for training programs for practicing design engineers and for short-term vocational programs. The contents of the book will also make it a useful read for students and hobbyists.

A self-contained, balanced introduction to digital system design using SSI and MSI. Following a discussion of basic concepts, Bose focuses on microprocessors and their peripherals, discussing both general principles of microprocessor-based system design and specific details of various commonly used devices.

A cutting-edge guide to the theory and practice of high-speed digital system design An understanding of high-speed interconnect phenomena is essential for digital designers who must deal with the challenges posed by the ever-increasing operating speeds of today's microprocessors. This book provides a much-needed, practical guide to the state of the art of modern digital system design, combining easily accessible explanations with immensely useful problem-solving strategies. Written by three leading Intel engineers, High-Speed Digital System Design clarifies difficult and often neglected topics involving the effects of high frequencies on digital buses and presents a variety of proven techniques and application examples. Extensive appendices, formulas, modeling techniques as well as hundreds of figures are also provided. Coverage includes: * A thorough introduction to the digital aspects of basic transmission line theory * Crosstalk and nonideal transmission line effects on signal quality and timings * The impact of packages, vias, and connectors on signal integrity * The effects of nonideal return current paths, high frequency power delivery, and simultaneous switching noise * Explanations of how driving circuit characteristics affect the quality of the digital signal * Digital timing analysis at the system level that incorporates high-speed signaling effects into timing budgets * Methodologies for designing high-speed buses and handling the very large number of variables that affect interconnect performance * Radiated emission problems and how to minimize system noise * The practical aspects of making measurements in high-speed digital systems

"This book has been designed to meet the needs of students of electronic engineering, computer science and physics. It will also be useful to engineers and scientists who did not have the opportunity to study digital techniques and microprocessors in their college days. The book can be used for self study, practice and as a guide to what can be expected in the examination. The book consists of 12 chapters and 8 appendices. Each chapter contains: Solved problems (300 in the book) Unsolved problems with answers (320 in the book) Questions with Answers (450 in the book) There is separate section containing 465 multiple choice questions (with answers) covering all the topics. Readers will find the exhaustive glossary of over 500 terms very useful.

Focusing on the must know essentials, this text is designed for one-semester consolidated courses in digital and microprocessor fundamentals, or one-semester courses in digital fundamentals followed by one-semester courses in microprocessor fundamentals.

Learn FileMaker® Pro 10 provides an excellent reference to FileMaker Inc.'s award-winning database program for both beginners and advanced developers. From converting files created with previous versions of FileMaker Pro and sharing data on the web to creating reports and sorting data, this book offers a hands-on approach to getting the most out of your FileMaker Pro databases. Learn how to use the completely redesigned Status area, now known as the Status toolbar; send e-mail right from FileMaker with the SMTP-based Send Mail option; build reports quickly and easily with the Saved Finds feature; automate your database with scripts and activate those scripts with the new script trigger feature; integrate your Bento data into your FileMaker files; work with the enhanced Web viewer.

This complete introduction to computer engineering includes the use of the microprocessor as a building block for digital logic design. The authors offer a top-down approach to designing digital systems, with

consideration of both hardware and software. They emphasize structured design throughout, and the design methods, techniques, and notations are consistent with this theme. The first part of the book lays the foundation for structured design techniques; the second part provides the fundamentals of microprocessor and up-based design. Topics covered include mixed logic notation, the algorithm state machine, and structured programming techniques with well-documented programs. Contains an abundance of examples and end-of-chapter problems.

Hardware -- Integrated Circuits.

Description: The book is an attempt to make Digital Logic Design easy and simple to understand. The book covers various features of Logic Design using lots of examples and relevant diagrams. The complete text is reviewed for its correctness. This book is an outcome of sincere effort and hard work to bring concepts of Digital Logic Design close to the audience of this book. The salient features of the book:--Easy explanation of Digital System and Binary Numbers with lots of solved examples--Detailed covering of Boolean Algebra and Gate-Level Minimization with proper examples and diagrammatic representation.--Detailed analysis of different Combinational Logic Circuits--Complete Synchronous sequential Logic understanding--Deep understanding of Memory and Programmable Logic--Detailed analysis of different Asynchronous Sequential Logic

Table Of Contents: Unit 1 : Digital System and Binary Numbers; Part 1: Digital System and Binary Numbers Part 2 : Boolean Algebra and Gate Level Minimization Unit 2 : Combinational Logic Unit 3: Sequential Circuits Unit 4 : Memory, Programmable Logic and Design Unit 5 : Asynchronous Sequential Logic

This textbook for a one-semester course in Digital Systems Design describes the basic methods used to develop "traditional" Digital Systems, based on the use of logic gates and flip flops, as well as more advanced techniques that enable the design of very large circuits, based on Hardware Description Languages and Synthesis tools. It was originally designed to accompany a MOOC (Massive Open Online Course) created at the Autonomous University of Barcelona (UAB), currently available on the Coursera platform. Readers will learn what a digital system is and how it can be developed, preparing them for steps toward other technical disciplines, such as Computer Architecture, Robotics, Bionics, Avionics and others. In particular, students will learn to design digital systems of medium complexity, describe digital systems using high level hardware description languages, and understand the operation of computers at their most basic level. All concepts introduced are reinforced by plentiful illustrations, examples, exercises, and applications. For example, as an applied example of the design techniques presented, the authors demonstrate the synthesis of a simple processor, leaving the student in a position to enter the world of Computer Architecture and Embedded Systems.

This book will teach students how to design digital logic circuits, specifically combinational and sequential circuits. Students will learn how to put these two types of circuits together to form dedicated and general-purpose microprocessors. This book is unique in that it combines the use of logic principles and the building of individual components to create data paths and control units, and finally the building of real dedicated custom microprocessors and general-purpose microprocessors. After understanding the material in the book, students will be able to design simple microprocessors and implement them in real hardware.

DIGITAL SYSTEMS DESIGN USING VERILOG integrates coverage of logic design principles, Verilog as a hardware design language, and FPGA implementation to help electrical and computer engineering students master the process of designing and testing new hardware configurations. A Verilog equivalent of authors Roth and John's previous successful text using VHDL, this practical book presents Verilog constructs side-by-side with hardware, encouraging students to think in terms of desired hardware while writing synthesizable Verilog. Following a review of the basic concepts of logic design, the authors introduce the basics of Verilog using simple combinational circuit examples, followed by models for simple sequential circuits. Subsequent chapters ask readers to tackle more and more complex designs. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

DIGITAL LOGIC AND MICROPROCESSOR DESIGN WITH INTERFACING, 2E provides a solid foundation for designing digital logic circuits. This unique approach combines the use of logic principles and the building of individual components to create data paths and control units so readers can build dedicated custom microprocessors and general-purpose microprocessors. Readers design simple microprocessors from the ground up, implement them in real hardware, and interface them to actual devices. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Digital Systems Design and Prototyping: Using Field Programmable Logic and Hardware Description Languages, Second Edition covers the subject of digital systems design using two important technologies: Field Programmable Logic Devices (FPLDs) and Hardware Description Languages (HDLs). These two technologies are combined to aid in the design, prototyping, and implementation of a whole range of digital systems from very simple ones replacing traditional glue logic to very complex ones customized as the applications require. Three HDLs are presented: VHDL and Verilog, the widely used standard languages, and the proprietary Altera HDL (AHDL). The chapters on these languages serve as tutorials and comparisons are made that show the strengths and weaknesses of each language. A large number of examples are used in the description of each language providing insight for the design and implementation of FPLDs. With the addition of the Altera UP-1 prototyping board, all examples can be tested and verified in a real FPLD. Digital Systems Design and Prototyping: Using Field Programmable Logic and Hardware Description Languages, Second Edition is designed as an advanced level textbook as well as a reference for the professional engineer.

Digital System Design and Microprocessors McGraw-Hill Companies

Market_Desc: · Undergraduate courses on digital logic design, computer architecture, and microprocessors. · Graduate students and practicing microprocessor system designers in industry. Special Features: · While most texts either focus on computer design or digital logic and digital systems, this book includes both areas, making it a unique addition to existing literature. · The author has an extensive background in computers and has published numerous books on the subject. He is undoubtedly one of the leading authorities in this field. · This book covers simple topics, such as number system and Boolean algebra, to advanced topics, such as assembly language programming and microprocessor-based system design. · The accompanying CD contains a step by step procedure for installing and using Altera Quartus II software for synthesizing Verilog and VHDL descriptions. Screen shots of the waveforms and tabular forms illustrating the simulation results are also provided in the CD. · The CD also contains a step by step procedure for installing and using MASM 6.11 (8086) and 68asmsim (68000). Screen shots

verifying correct operations of several assembly language programs via simulation using test data are also provided in the CD. About The Book: This book covers all basic concepts of computer engineering and science from digital logic circuits to the design of a complete microcomputer system in a methodical and basic manner. Its intention is to present a clear understanding of the principles and basic tools required to design typical digital systems such as microcomputers. The book covers the latest version of Altera software called Quartus II. It provides a simplified introduction to VHDL along with a step by step procedure with tutorials on a CD. It is ideal for an introductory course in VHDL, containing digital logic and microprocessors along with both VHDL and Verilog. The material in the text is divided into three sections:· Fundamentals of digital logic circuits and design.· Microprocessor/microcomputer design.· Overview of 16-, 32-, and 64-bit microprocessors manufactured by Intel and Motorola.

An introductory text to computer architecture, this comprehensive volume covers the concepts from logic gates to advanced computer architecture. It comes with a full spectrum of exercises and web-downloadable support materials, including assembler and simulator, which can be used in the context of different courses. The authors also make available a hardware description, which can be used in labs and assignments, for hands-on experimentation with an actual, simple processor. This unique compendium is a useful reference for undergraduates, graduates and professionals majoring in computer engineering, circuits and systems, software engineering, biomedical engineering and aerospace engineering.

Fundamentals of Digital Logic and Microcomputer Design, has long been hailed for its clear and simple presentation of the principles and basic tools required to design typical digital systems such as microcomputers. In this Fifth Edition, the author focuses on computer design at three levels: the device level, the logic level, and the system level. Basic topics are covered, such as number systems and Boolean algebra, combinational and sequential logic design, as well as more advanced subjects such as assembly language programming and microprocessor-based system design. Numerous examples are provided throughout the text. Coverage includes: Digital circuits at the gate and flip-flop levels Analysis and design of combinational and sequential circuits Microcomputer organization, architecture, and programming concepts Design of computer instruction sets, CPU, memory, and I/O System design features associated with popular microprocessors from Intel and Motorola Future plans in microprocessor development An instructor's manual, available upon request Additionally, the accompanying CD-ROM, contains step-by-step procedures for installing and using Altera Quartus II software, MASM 6.11 (8086), and 68asmsim (68000), provides valuable simulation results via screen shots. Fundamentals of Digital Logic and Microcomputer Design is an essential reference that will provide you with the fundamental tools you need to design typical digital systems.

The book is written for an undergraduate course on digital electronics. The book provides basic concepts, procedures and several relevant examples to help the readers to understand the analysis and design of various digital circuits. It also introduces hardware description language, VHDL. The book teaches you the logic gates, logic families, Boolean algebra, simplification of logic functions, analysis and design of combinational circuits using SSI and MSI circuits and analysis and design of the sequential circuits. This book provides in-depth information about multiplexers, de-multiplexers, decoders, encoders, circuits for arithmetic operations, various types of flip-flops, counters and registers. It also covers asynchronous sequential circuits, memories and programmable logic devices.

The second edition of this work introduces the fundamental topics of digital system design. Divided into three parts, it covers logic design (into which a new section on ANSI/IEEE floating point standard has been included), the components of a microprocessor system and more extended aspects of digital system design. A major new chapter on VLSI system design and testing by Rafic Makki is included.

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